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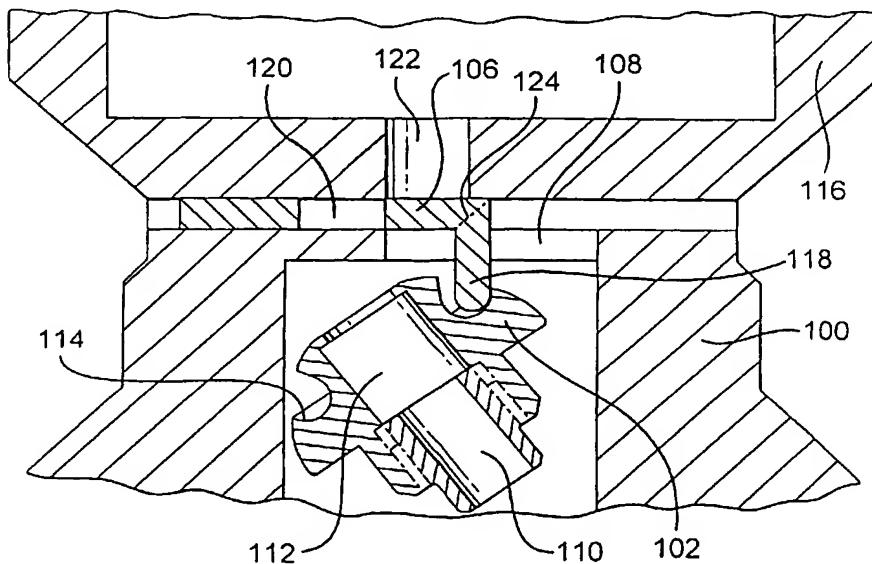
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[Continued on next page]

(54) Title: SAFETY SYSTEM FOR THE IGNITION CHAIN OF A PROJECTILE FUZE



(57) Abstract: A small arms projectile for a small arms weapon, which projectile comprises a warhead (116) having an explosive charge (not shown), an initiator (102), and a firing pin (not shown). The initiator has safe and armed conditions and is capable of detonating the explosive charge of the warhead when the initiator is in the armed condition and impacted with sufficient force by the firing pin. The projectile further comprises shielding means (106) positioned between the initiator and the explosive charge of the warhead, which shielding means is slidable from a safety position in which the shielding means shields the explosive charge of the warhead from the initiator, to an armed position in which the initiator is capable of detonating the explosive charge of the warhead. The shielding means is slidable from the safe to the armed position in response to the initiator moving from the safe to the armed condition.

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Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

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C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category ^a	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 99/51934 A (ALCULUMBRÉ MICHAEL ; SPECIAL CARTRIDGE COMPANY LIMI (GB); SHAPHYR SHAL) 14 October 1999 (1999-10-14) page 18, paragraph 2 - page 19, paragraph 1; figures	1
A	US 5 670 736 A (CHEMIERE PATRICE ET AL) 23 September 1997 (1997-09-23) column 3, line 63 - column 5, line 17; figures	1
A	EP 0 566 469 A (MANURHIN DEFENSE) 20 October 1993 (1993-10-20) column 6, line 2 - column 7, line 30, paragraphs	1
A	CH 648 655 A (INVENTA AG) 29 March 1985 (1985-03-29) the whole document	1

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Patent document cited in search report	Publication date	Patent family member(s)		Publication date
WO 9951934	A 14-10-1999	AU 3339599	A	25-10-1999
		BR 9909431	A	11-09-2001
		CA 2326432	A1	14-10-1999
		EP 1068484	A1	17-01-2001
		WO 9951934	A1	14-10-1999
		US 2003024427	A1	06-02-2003
		ZA 200005354	A	05-08-2002
US 5670736	A 23-09-1997	FR 2737293	A1	31-01-1997
		DE 69609255	D1	17-08-2000
		DE 69609255	T2	04-01-2001
		EP 0756151	A1	29-01-1997
EP 0566469	A 20-10-1993	FR 2689972	A1	15-10-1993
		AT 145280	T	15-11-1996
		DE 69305907	D1	19-12-1996
		DE 69305907	T2	06-03-1997
		EP 0566469	A1	20-10-1993
		ES 2095594	T3	16-02-1997
		GR 3022520	T3	31-05-1997
CH 648655	A 29-03-1985	CH 648655	A5	29-03-1985